Remarks/Arguments

Applicants have received and carefully reviewed the Office Action of the examiner mailed November 3, 2004. Reconsideration and reexamination are respectfully requested. Claims 1, 3-4, 32, 36, 44 and 45 have been amended. Support for the amendments is found in the specification and drawings as originally filed. No new matter has been added.

Rejection under 35 U.S.C. § 103(a)

Claims 1, 2, 5, 32, 36, and 44-47 are rejected as being unpatentable over Hoag (No Such Thing As Doomsday). Applicants respectfully traverse this rejection.

The Examiner states that Hoag discloses a shelter building with multiple rooms, where the building has an HVAC system having air intake and exhaust ducts. The Examiner states that Hoag teaches that in case of biological or chemical attack the building shelter has to be sealed from the outside air, and that as a result, the air ducts of at least one room are sealed from the outside air. The Examiner acknowledges that Hoag fails to teach sealing off air return ducts, but asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to close up any connection that can be a source of contamination including air return ducts in order to protect the lives of individuals living inside the shelter.

Independent claim 1, as amended, recites:

> 1. (Currently Amended) A building having two or more rooms and air supply and return ducts comprising:
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> at least one room for providing a human life sustaining atmosphere in the face of a harmful airborne agent attack against said building, wherein said at least one room includes less than all of the rooms in the building, wherein said at least one room includes
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> openings to accommodate the building air supply and return ducts,
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> an oxygen source,
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> a carbon dioxide scrubber, and
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> wherein said at least one room is substantially sealed off from said building air return and supply ducts, thereby sealing off said at least one room from air in the building that is outside of the at least one room, and wherein gaseous oxygen is added to said at least one room atmosphere by said oxygen source and gaseous carbon dioxide is removed from said at least one room atmosphere by said carbon dioxide scrubber.

As can be seen, claim 1 recites a building air supply and return ducts and two or more rooms. At least at least one of the rooms, which includes less than all of the rooms in the building, is for providing a human life sustaining atmosphere in the face of a harmful airborne agent attack against said building. The at least one room includes openings to accommodate the building air supply and return ducts, an oxygen source, a carbon dioxide scrubber, and wherein said at least one room is substantially sealed off from said building air return and supply ducts, thereby sealing off said at least one room from air in the building that is outside of the at least one room. Claim 1 also recites that gaseous oxygen is added to said at least one room atmosphere by said oxygen source and gaseous carbon dioxide is removed from said at least one room atmosphere by said carbon dioxide scrubber.

In the Response to the Arguments section on page 7 of the Office Action, the Examiner asserts that Hoag teaches closing up all connections in case of an extremely high level of contaminants outside, thus it would have been obvious to close up any connection that can be a source of contamination including air return ducts to individual rooms as taught by Hoag in order to protect lives of occupants living inside the shelter. Applicants respectfully traverse the rejection.

Hoag discloses sealing off the entire building from the outside environment. Thus, while rooms in Hoag's shelter are also effectively sealed off from the outside environment, Hoag does not teach or suggest sealing off the rooms from the building air return and supply ducts, to thereby sealing off said at least one room (which includes less than all of the rooms in the building) from air in the building that is outside of the at least one room, as is recited in independent claim 1. The entire disclosure of Hoag appears to be directed to building a shelter, which may contain separate rooms, where the entire shelter is to be sealed off from the outside environment. There is no teaching, suggestion, or motivation in Hoag of a building with separate rooms in a room is sealed off from the building air return and supply ducts such that the room itself is sealed off from air in the building that is outside of the room.

The Examiner points to page 8 of Hoag for teaching closing up all connections in case of an extremely high level of contaminants outside. Under the heading "Blast Valves and Gate Valves", Hoag specifically teaches:

> "There may be situations other than overpressure in which the inhabitants of a shelter may need to close off or seal the incoming and exhaust air ducts. This closing up of all connection to the outside is generally referred to as buttoning up. On reason to button up is an extremely high level of contaminants outside."

The Examiner then makes the assertion that

> "it would have been obvious to one having ordinary skill in the art at the time the invention was made to close up any connection that can be a source of contamination including air return ducts to individual rooms as taught by the Hoag reference in order to protect the lives of occupants living inside the shelter."

The section of the Hoag reference relied on by the Examiner clearly does not teach closing connections such as air return ducts to individual rooms. Hoag teaches a shelter that is sealed from the outside air. Applicants have carefully reviewed the Hoag disclosure and have not found any teaching or suggestion of anything other than sealing the entire shelter from the outside air.

Additionally, Hoag does not provide any motivation or suggestion to modify his shelter such that a particular room or rooms would be sealed off from the rest of the shelter. All of the sealing means disclosed by Hoag are for sealing off the entire shelter from the outside environment. Applicants submit that there was no motive for one of ordinary skill in the art at the time the invention was made to modify the disclosure of Hoag to achieve the instant invention. The Examiner asserts one would modify Hoag "in order to protect the lives of individuals living inside the shelter." Hoag teaches protecting the individuals in the shelter by sealing off the entire shelter from the outside air. Hoag thus already provides a means of protecting the people in the shelter. The shelter in its entirety is the safe place in Hoag; any rooms are merely sections of the shelter. Hoag teaches the individuals in the shelter are safe from the outside environment due to the seals separating the shelter from the outside air. With the shelter sealed off from the outside air, why would one be motivated to modify Hoag by sealing off a room within the

shelter? Applicants submit that the only motivation for modifying Hoag is found in the instant specification, which is improper. Withdrawal of the rejection is respectfully requested.

Dependent claim 44 recites the building of claim 1 further comprising means for substantially sealing off the at least one room from the building air supply and return ducts. Claim 44 is clearly patentable over Hoag because, as stated above, Hoag discloses sealing the entire building off from the outside environment. One of ordinary skill in the art, upon reading Hoag, would be instructed on how to build a shelter with blast valves or other means for sealing off the entire shelter building from the outside environment, however, one would not know how, or be motivated to seal off a room in a building from the building air supply and return ducts, as is recited in claim 44. Hoag does not teach or suggest a shelter building in which individual rooms are also provided with means for sealing off from the remainder of the building. Additionally, as stated above, Hoag is concerned with providing a shelter, the entirety of which is sealed from the outside, thus there is no motivation for modifying Hoag's shelter to include additional sealing means for sealing off individual rooms from the remainder of the shelter.

The Examiner asserts that Hoag teaches "means for sealing off the room", however, the part of Hoag on which the Examiner relies (page 6) actually discloses that circumstances may arise where the shelter occupants may be forced to close up the shelter and "discontinue bringing in fresh air from the outside." Thus, while Hoag teaches sealing off the entire building from the outside, Hoag does not teach or suggest sealing off a room from the building air and return ducts, as is recited in claim 44. Hoag fails to teach the limitations of claim 44 and thus cannot be deemed to anticipate or render obvious the claim. Withdrawal of the rejection is respectfully requested.

Independent claim 32 recites an enclosure having one or more air supply and/or return ducts connected to a building HVAC system and means for substantially sealing off the enclosure from those ducts such that the enclosure is substantially sealed off from the building HVAC system. For at least the reasons set forth above, independent claim 32 is also distinguished from Hoag. Hoag discloses sealing off the entire building from the outside and does not teach or suggest means for substantially sealing off an enclosure

within the building from the air supply and/or return ducts connected to the building's HVAC system. Hoag thus fails to teach each and every limitation of the claim.

Independent claims 36 and 45 are similarly distinguished from Hoag because the claims recite an enclosure or room substantially sealed off from the building air supply and return ducts, which ducts are part of the building. Thus the enclosure or room is sealed off from the remaining building. As noted above, Hoag teaches sealing off the entire building from the outside environment and thus does not teach or suggest the elements of the claims.

Claims 3, 4, and 33-35 are rejected as being unpatentable over Hoag in view of Mulcahy (US 4,901,715). Claims 2-4, 6-8, 33-35, and 37-43 are rejected as being unpatentable over Hoag in view of the Applicants' admitted state of the art. Applicants respectfully traverse the rejections.

Hoag fails to teach the limitations of the independent claims for at least the reasons set forth above. The Examiner admits that Hoag fails to teach an oxygen generator that includes an exhaust tube that has a terminal free end outside the room. In response to Applicants' previous arguments that the entire disclosure of Hoag is directed to avoiding what Mulcahy is striving to do: bring outside air into the building, the Examiner asserts that Mulcahy teaches placing a filter device on the oxygen line such that contaminants are prevented from entering the shelter. The Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Hoag by adding a plumbing fixture having a water trap and exhaust tube as taught by Mulcahy in order to exhaust the carbon dioxide gas accumulated in the shelter's atmosphere. However, as noted by the Examiner, Hoag already teaches the use of a carbon dioxide scrubbing device for removal of carbon dioxide. Thus, there is no motivation for either substituting or adding a redundant means of removing carbon dioxide to the shelter of Hoag.

Additionally, it appears that every embodiment of the Mulcahy device is designed to bring air into the room, not exhaust air from the room, as asserted by the Examiner. Mulcahy specifically teach a device with which a person "can gain access to the oxygen within the soil-stack 12 for survival until the fire, smoke, toxic fumes, or other life-

threatening atmospheric condition within the building is obviated" (column 2, lines 58-61); that the device is designed "to increase the amount of soil-stack oxygen that can be caused to flow from the soil-stack 12 into the bathroom" (column 3, lines 17-19); the device includes a bellows "for pumping the air from the soil-stack 12 into the bathroom area" (column 3, lines 41-42); and breathing masks "so that air can be inhaled through a flexible, annular connecting tube or conduit 96 but cannot be exhaled back through the connection tube 96 but is exhaled to the surrounding atmosphere" (column 5, lines 27-35); and the device can be used with a vacuum cleaner "for electrically pumping air from the soil-stack 12 into the bathroom area" (column 6, lines 38-41). Mulcahy thus clearly teaches a device that brings air into a bathroom. Mulcahy does not, however, appear to teach a device configured to exhaust air from a room, as is asserted by the Examiner.

The fact that Mulcahy teaches a filter for filtering the incoming air does not provide motivation for one of ordinary skill in the art to first modify the Mulcahy device to transform its function from bringing air into a bathroom to exhausting air to the outside of the building, and then to modify the Hoag shelter to include the modified Mulcahy device to exhaust carbon dioxide; especially in view of the fact that Hoag already teaches using an air scrubber to remove carbon dioxide.

Additionally, even if one were to combine Mulcahy and Hoag, one would essentially destroy the functionality of Hoag's shelter. Hoag teaches sealing off the entire shelter from the outside environment, that is, preventing outside air from entering the shelter. If one were to modify the shelter of Hoag with the device of Mulcahy, one would breach that seal and bring outside air into the shelter. The Examiner states exhausting the unused oxygen from the user's atmosphere as a reason for combining the references. There is no indication in Hoag or Mulcahy that this is desired, nor is there any indication that Mulcahy achieves this effect. Mulcahy teaches providing oxygen from the outside to the inside, not exhausting excess oxygen. Claims 6-8 and 37-38 are distinguished over Hoag for at least the reasons set forth above in the discussion of the independent claims from which they depend.

Reconsideration and reexamination are respectfully requested. It is believed that all pending claims, namely claims 1-8 and 32-47, are in condition for allowance.

Issuance of a notice of allowance in due course is respectfully requested. If a telephone conference would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully Submitted,

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